Medical School Library
University of California
NOV 30 1939

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH
WALTER M. DICKIE, M.D., Director

Weekly Bulletin

STATE BOARD OF PUBLIC HEALTH
DR. HOWARD MORROW, San Francisco, President
DR. EDWARD M. PALLETTE, Los Angeles, Vice President
DR. GUSTAVE WILSON, Sacramento
DR. WM. R. P. CLARK, San Francisco
DR. ROY A. TERRY, Long Beach
DR. V. A. ROSSITER, Santa Ana
DR. NORMAN F. SPRAGUE, Los Angeles
DR. WALTER M. DICKIE, Sacramento
Executive Officer

SAN FRANCISCO
State Office Building, McAllister and Larkin Streets UNderhill 8700

SACRAMENTO
State Office Building, 10th and L Streets
Capital 2800

LOS ANGELES
State Office Building, 217 West First Street MAdison 1271

Entered as second-class matter February 21, 1922, at the post office at Sacramento, California, under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917.

Vol. XVIII, No. 42 November 11, 1939 GUY P. JONES EDITOR

Migration as a Factor in the Spread of Disease

The desire to migrate is inherent in the human animal. The history of the world constitutes the record of migratory conquests. From the standpoint of the epidemiologist, migration provides only increased facilities for contact between human beings, thereby creating unlimited opportunities for the transfer of communicable diseases. War, with its continuous movement of large masses of men, has a most tremendous influence in the transmission and spread of disease. It is a trite saying that the diseases accompanying and following war kill more men than bullets. We do not have to look far for examples of the effect that war produces in the promotion of epidemics of disease. During the first World War, an influenza pandemic occurred, visiting almost every corner of the populated world. Since influenza pandemics seem to appear in cycles of about thirty years, it is probable that a world-wide outbreak of this disease was due in 1918. Undoubtedly the transfer of large bodies of men from one country to another during the World War had a tremendous effect in increasing the virulence of the disease, and facilitated greatly its rapid spread throughout the world.

Typhus fever is another disease that flared up disastrously during and following the recent conflict. It is stated that 120,000 Serbians died of this disease during the war and the epidemics that existed in Bulgaria, Poland and Serbia were not brought under control until effective sanitary measures had been directed against the body louse, which is responsible for the transmission of the disease. Following the long drawn out Napoleonic wars, typhus fever was widely prevalent in Great Britain and Ireland. The disease is not new; it probably existed among the ancient Greeks, for Hippocrates described cases that are very suggestive of typhus fever. It has always been one of the furies that follows on the heels of war. It became epidemic in Mexico soon after the Conquest in 1530, and has continued in endemic form in that country ever since that time. During the World War there was very little typhus in the armies of Great Britain, France, Italy, the United States and Germany; it was quite prevalent in the armies of Russia and Austria. It is believed that the Serbian outbreak was introduced by Austrian prisoners early in 1915. In April of that year it is estimated that the deaths in Serbia reached nine thousand per day. The epidemic extended into Bulgaria and Roumania.

Trench fever came into great prominence during the war. This disease was unknown heretofore, although it is probable that it had been recognized at an earlier time in Poland. This disease became one of the most powerful factors in reducing the efficiency of armies on the western front. It is estimated that more than a million cases occurred among the allies. In 1917, in the second British army alone, out of a total of 106,000 admissions to hospital, at least 20,000 cases were of trench fever. Research work begun in

1917 by the American Red Cross in Paris, under Major R. P. Strong, resulted in the discovery in less than six months that this disease is transmitted by the body louse. There could be no better example of the value of research work. Had this discovery been made at the beginning of the war the efficiency of the allied troops might have been increased greatly. While the disease is never fatal, it is of long duration and produces overwhelming disability.

A classical example of war as a factor in the spread of transmissible disease is that of syphilis as spread by the armies of Charles VIII in 1494. This army of 32,000 men invaded Italy for the conquest of Naples. Syphilis appeared among these soldiers in Italy and then spread over Europe with astounding rapidity. Syphilis was unknown before 1493. Tradition states that the sailors who accompanied Columbus to America carried it back to Spain with them. As a matter of fact, however, it is more likely that the disease that these sailors carried back to Europe with them was yaws from the West Indies.

Typhoid fever in the Civil War and in the Spanish-American War are classical examples of how war promotes and spreads communicable diseases. Typhoid fever also furnishes an excellent example of progress that has been made in the control of a disease that is coincidental with war. In the Civil War, during the years 1861 and 1862, the typhoid fever death rate in the United States Army was 1961 per hundred thousand. In the Spanish-American War, during the years 1898 and 1899, the typhoid death rate in the United States Army was 907 per hundred thousand, and in the World War, during the years 1917 and 1918, the typhoid fever death rate among our troops was but five per hundred thousand.

There are many other examples of the part that war plays in the transmission of communicable diseases. How these diseases following war have been transmitted to civil populations is a well known matter of fact. If war were to be eliminated, the greatest single factor in the development of explosive outbreaks of communicable diseases would be eliminated. The remarkable advances in the control of some of the communicable diseases that are commonly associated with war, such as smallpox, typhoid fever, etc., show how scientific measures of control may operate successfully in spite of the tremendous facilities for contact provided by war migration.

TRADE

Next to war, the migration of human beings associated with trade constitutes the greatest factor in the spread of communicable diseases throughout the world. All of our most severe and rapidly fatal communicable diseases have been carried along trade routes in times of peace. Of these, cholera and plague have probably produced the most disastrous results in sickness and death among human beings. The home of cholera is in the delta of the Ganges River. The disease was epidemic at various times in India during the sixteenth, seventeenth and eighteenth centuries. During the nine years—1902 to 1911—no less than four million died of cholera in India. It is only in the nineteenth century that the disease spread along routes of trade and travel to Europe, where it first appeared in 1830. The disease entered the United States in 1848 through New Orleans, and according to Rosenau, was dragged across the continent to California, where it appeared in 1849.

PLAGUE

Gibbon says that Egypt has been stigmatized in all the ages as "the source and seminary of the plague." The exact source of the disease is unknown, but it is certain that it was prevalent in the first century before Christ. In the year 80 A. D., deaths from plague in Rome alone numbered ten thousand a day. In the year 1200 to 1450 A. D., plague became pandemic. The tremendous toll that this disease exacted in England during the fourteenth century is well known. It became the celebrated "black death" which caused the grass to grow in the streets of London. Plague brought deathly havoc to European countries during the Middle Ages, and for several centuries after this period it seemed to remain dormant. In 1898 it became epidemic in India where, during the past twenty-five years, nearly eleven million people have died of this disease. It is now endemic in many parts of the world. A constant vigilance is required to keep it in check. Since the World War the disease appeared in many very widely separated localities. Sixty thousand died of plague in Manchuria in 1911. Twenty thousand people died of the disease in China in 1918, and in 1920 it appeared in several localities in northern and northeastern China. In 1921, 164 cases, with 108 deaths, were reported at Tampico, Mexico. In 1919 there were 14 cases with 13 deaths in Oakland, California. In 1920 there were 18 cases with 12 deaths in Galveston, Texas. In 1921, 36 cases were reported in Paris and an outbreak in Los Angeles in 1924-1925 involved 32 cases with 30 deaths.

SMALLPOX

Smallpox appeared in England in the sixteenth century, having traveled, according to the best authorities, all the way from the Orient. It is true that diphtheria, dysentery, tuberculosis and many other diseases that are still prevalent, existed during the Middle Ages, but they were completely overshadowed by cholera, plague and other epidemics which took vast numbers of lives.

INTERSTATE MIGRATION

Migration within the United States, with its relation to the spread of communicable diseases, is a story in itself. Reference has already been made to the entrance of cholera in New Orleans in 1848, and how it was dragged across the continent to California in 1849. Sacramento in 1850 suffered more from cholera than any other community in the state. There were at least 200 deaths from the disease in that village settlement during the period of a few days. Malaria, too, was brought into California before the days of gold, where it has remained ever since in some of the interior valleys. Hookworm in the late nineties appeared in various parts of California but chiefly in the deep gold mines, where ideal conditions as to moisture and temperature favored the development and transmission of the disease. The original cases undoubtedly were in Austrian miners and workers from other European countries who came from infected districts of their native lands. Hookworm among a colony of Porto Ricans was discovered in California several years ago. At that time there was extensive migration of laborers from Porto Rico, which was then infected with hookworm, to Hawaii. These Porto Rican laborers came into California from Hawaii in considerable numbers and it was only by the exercise of stringent control measures that the disease was kept in check in this state. Typhus fever, as already mentioned, is endemic in Mexico, and it is safe to state that cases will appear from time to time among the Mexicans in California. Our high standards of living and our general good sanitary conditions would seem to prevent the possibility of this disease becoming endemic throughout the state. With large numbers of Mexicans drifting into California at all times, however, the disease is a constant menace.

A few years ago there was an extensive migration of underprivileged people from Kentucky and Tennessee into the Imperial Valley and thereafter it was found that large numbers of native children in the Imperial Valley were suffering from trachoma. Infected individuals from Kentucky and Tennessee are undoubtedly responsible for the appearance of trachoma in this valley. There is great danger from these chronic diseases, whose encroachment is always insidious.

NO EGG PRODUCTS FROM CHINA

No receipts of imported egg products from China were entered during October. Shipments of dried and frozen eggs from without the state were smaller in number.

RODENT CONTROL ACTIVITIES

The rodent survey conducted by the Bureau of Sanitary Inspections continued during October in sections of the following counties: Alameda, Contra Costa, San Mateo, Placer, El Dorado, San Benito, Shasta, Tehama, Butte, Sutter, Yuba, Santa Clara, San Luis Obispo, Kern, Madera and Santa Cruz. During the month, 3170 rodents were collected and examined and nearly 2400 fleas, collected from such rodents and their burrows were sent to the laboratory for examination. In the course of this work, 17 counties were visited and 217 ranches and other pieces of property were hunted over. A total of 31 cities and towns were visited and 260 premises were inspected. Rodents collected consisted mostly of ground squirrels, rats, chipmunks, wood rats and other rodents.

FOOD PRODUCTS DESTROYED

At the request of the State Relief Administrator large quantities of codfish and corn meal were inspected by the Bureau of Food and Drug Inspection with the result that the codfish was found to be rancid and putrid and the corn meal was infested with larvae and weevils, making necessary the voluntary destruction of these products as unfit for human consumption. Large lots of macaroni products and graham flour were used for hog feed, because of their unfitness for human consumption. A lot of 1600 gallons of dry wine was distilled because it did not conform to the established wine standards.

BOTULISM FROM HOME-CANNED GREENS

An aged woman in Los Angeles County opened a jar of home-canned beet greens on October 3, noticed that there was an unpleasant odor from the product and tasted it. The greens were then thrown into the chicken yard, causing the death of five chickens and partial paralysis in one other chicken. On the following day the woman experienced a disturbance on one eye and visited an oculist. Later in the day, she complained of difficulty in vision in the other eye, difficulty in breathing and swallowing, and speech was thickened. On October 5 she received 8000 units of antitoxin and on October 6, 2000 units. Improvement began immediately. None of the home-canned product remained for laboratory examination.

There is no royal road to reconstruction for a failing heart; but by knowledge and perseverance, interest can be stimulated in something which will often successfully restore a person to usefulness and rescue him from invalidism.

MORBIDITY

Complete Reports for Following Diseases for Week Ending November 4, 1939

Chickenpox

173 cases: Alameda County 7, Oakland 1, Piedmont 1, Fresno 7, Humboldt County 5, Kern County 1, Los Angeles County 9, Long Beach 3, Los Angeles 6, Pomona 1, San Fernando 1, Santa Monica 3, Madera County 5, San Rafael 4, Dos Palos 1, Monterey 4, Orange County 8, Santa Ana 6, Plumas County 2, Riverside 1, Indio 4, Sacramento 3, San Bernardino County 2, Redlands 1, San Bernardino 1, San Diego 3, San Francisco 19, San Joaquin County 4, Stockton 6, San Luis Obispo County 14, San Mateo County 1, Redwood City 1, San Mateo 2, Santa Barbara 2, Santa Clara County 3, Santa Cruz 1, Watsonville 16, Siskiyou County 2, Turlock 1, Sutter County 1, Tulare County 1, Visalia 1, Ventura County 4, Oxnard 1, Santa Paula 1, Ventura 1, Yuba County 1.

Diphtheria

29 cases: Los Angeles 3, Sierra Madre 1, Madera County 9, Monterey 1, Elsinore 2, Sacramento 1, Colton 2, San Diego County 4, San Joaquin County 1, Solano County 1, Dinuba 3, Yuba County 1.

German Measles

10 cases: Berkeley 1, Colusa County 1, Fresno 1, Los Angeles County 2, Orange County 1, Anaheim 1, Fullerton 1, San Diego 1, San Francisco 1.

Influenza

29 cases: Oakland 1, Contra Costa County 8, Los Angeles County 7, Burbank 1, Los Angeles 9, San Bernardino County 1, San Diego 1, San Francisco 1.

Malaria

3 cases: Fresno County 1, Los Angeles 1, San Joaquin County 1.

Measles

151 cases: Alameda County 1, Alameda 1, Oakland 1, Butte County 1, Contra Costa County 1, Martinez 1, Kern County 2, Los Angeles County 2, Los Angeles 3, Pomona 1, San Fernando 7, South Gate 1, Madera County 1, San Diego County 2, National City 11, San Diego 72, San Francisco 5, San Joaquin County 1, Lodi 1, Tulare County 35, Ventura County 1.

Mumps

185 cases: Alameda County 1, Alameda 3, Berkeley 1, Oakland 9, Antioch 1, Fresno County 2, Kern County 5, Bakersfield 1, Kings County 3, Los Angeles County 8, Long Beach 3, Los Angeles 18, San Fernando 2, San Gabriel 1, South Pasadena 1, Lynwood 1, Marin County 1, Monterey County 1, La Habra 1, Placentia 1, Lincoln 1, Plumas County 1, Sacramento 3, San Bernardino County 1, Redlands 1, San Diego 3, San Francisco 25, San Joaquin County 3, Stockton 5, San Luis Obispo 3, Burlingame 1, San Mateo 1, Menlo Park 1, Santa Barbara County 2, Santa Barbara 2, Santa Maria 7, Mountain View 3, Palo Alto 26, Santa Cruz 1, Sonoma County 3, Tulare County 17, Dinuba 3, Ventura County 1, Davis 6, Woodland 1.

Pneumonia (Lobar)

33 cases: Bakersfield 1, Los Angeles County 6, Alhambra 1, Burbank 1, Los Angeles 12, Banning 1, Sacramento County 1, San Francisco 2, San Joaquin County 3, Stockton 4, Oxnard 1.

Scarlet Fever

149 cases: Oakland 2, Butte County 3, Antioch 1, Fresno County 7, Fresno 2, Kern County 8, Delano 1, Los Angeles County 12, Culver City 1, Glendale 7, Huntington Park 1, Long Beach 6, Los Angeles 25, Pasadena 1, Pomona 4, San Gabriel 2, Santa Monica 1, South Gate 2, Signal Hill 2, Merced 1, Monterey County 2, Orange County 3, Huntington Beach 2, Corona 1, Riverside 1, Sacramento County 1, Sacramento 3, San Bernardino 1, Chula Vista 1, San Diego 8, San Francisco 9, San Joaquin County 4, Stockton 1, Tracy 1, San Luis Obispo County 1, Santa Barbara County 2, Lompoc 1, Santa Barbara 3, Santa Clara County 3, Palo Alto 1, Santa Clara 1, Sonoma County 1, Turlock 1, Red Bluff 1, Trinity County 1, Tulare County 2, Dinuba 2, Ventura County 1, Marysville 1.

Smallpox

5 cases: Kern County 2, Colton 1, San Joaquin County 1, Sutter County 1.

Typhoid Fever

15 cases: Butte County 1, Fresno County 1, Los Angeles 10, California 3.*

Whooping Cough

106 cases: Alameda County 6, Berkeley 1, San Leandro 1, Colusa County 1, Fresno County 4, Fresno 1, Kern County 12, Bakersfield 1, Hanford 1, Los Angeles County 13, Long Beach 5, Los Angeles 4, Pasadena 3, Merced County 3, Orange County 1, Fullerton 1, Orange 1, Laguna Beach 1, Redlands 3, San Diego 13, San Francisco 9, Redwood City 1, Menlo Park 1, Belmont 3, Santa Barbara 1, San Jose 1, Sunnyvale 1, Santa Cruz 6, Sonoma County 5, Oxnard 2.

Dysentery (Amoebic)

4 cases: Fresno County 1, Los Angeles 1, Sacramento County 1, San Bernardino County 1.

Dysentery (Bacillary)

19 cases: Los Angeles County 3, Los Angeles 7, San Fernando 1, San Diego County 1, San Joaquin County 2, San Mateo County 1, Palo Alto 3, Stanislaus County 1.

Leprosy

One case: Fresno County.

Pellagra

2 cases: Fresno County 1, Sacramento 1.

Poliomyelitis

21 cases: Oakland 1, Fresno County 2, Fresno 1, Kern County 1, Los Angeles County 1, Long Beach 2, Los Angeles 3, Laguna Beach 1, Hollister 1, San Bernardino County 1, San Diego County 1, San Francisco 4, San Luis Obispo County 1, Palto Alto 1.

Tetanus

One case: Los Angeles.

Trachoma

4 cases: Fresno County 1, Indio 2, San Francisco 1.

Encephalitis (Epidemic)

One case: Imperial County.

Paratyphoid Fever

3 cases: Los Angeles County 1, Los Angeles 2.

Trichinosis

One case: Los Angeles.

Typhus Fever

3 cases: San Diego County 1, Los Angeles 1, California 1.*

Food Poisoning

14 cases: Los Angeles 7, Orange County 2, San Luis Obispo 3, San Mateo County 2.

Undulant Fever

2 cases: Los Angeles 1, Upland 1.

Septic Sore Throat

One case: Bakersfield.

Rabies (Animal)

One case: Los Angeles County.

* Cases charged to "California" represent patients ill before entering the state or those who contracted their illness traveling about the state throughout the incubation period of the disease. These cases are not chargeable to any one locality.

OCEAN BEACH SANITATION

During October investigations were made by the Bureau of Sanitary Inspections into sanitary conditions on the following ocean beaches: Pescadero, Half Moon Bay, Montara, Princeton, Rockaway, Salada, Sharp's Park, Cliff House to the San Mateo County line, China and Bakers Beach. The water fronts of Alameda, San Leandro, Oakland, Berkeley, Richmond, Martinez, Antioch and Pittsburg were inspected, and arrangements were made to undertake rodent control work in several of these localities.

University of California
Medical Library,
3rd & Parnassus Aves.,
San Francisco, Calif.

77833 11-39 6500

printed in CALIFORNIA STATE PRINTING OFFICE
SACRAMENTO: GEORGE H. MOORE, STATE PRINTER